

# WASP



## HOOK FOR TIMBER ELEMENTS TRANSPORT

### STABLE

The built-in jaws hold down the screw head in the wall.

### EFFECTIVE

Can be used for axial and transversal loads.

### CERTIFICATE

Pursuant to the Directive 2006/42/EC on machinery.

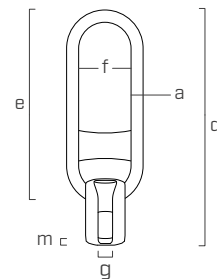


## CODES

	suitable screws	pcs
WASP	VGS Ø11 - HBS Ø10	2
WASPL	VGS Ø11 - VGS Ø13	2

## DIMENSIONS

	a	d	e	f	g	m
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
WASP	12	185	157	40	12	6
WASPL	14	208	180	54	13	9,8



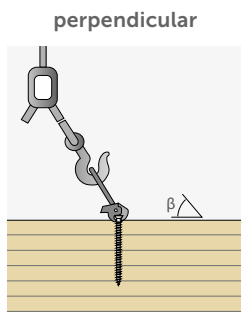
## MATERIAL

Made of very high strength bright zinc plated carbon steel.

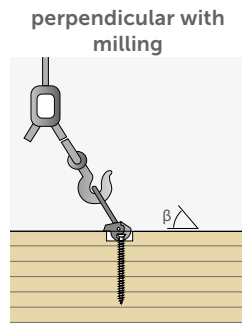
## VERSATILE

Various installation options with more types of screws for load conditions and different materials.

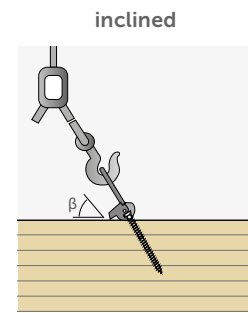
## SCREWS ALIGNMENT



Insert the screw perpendicular to the timber



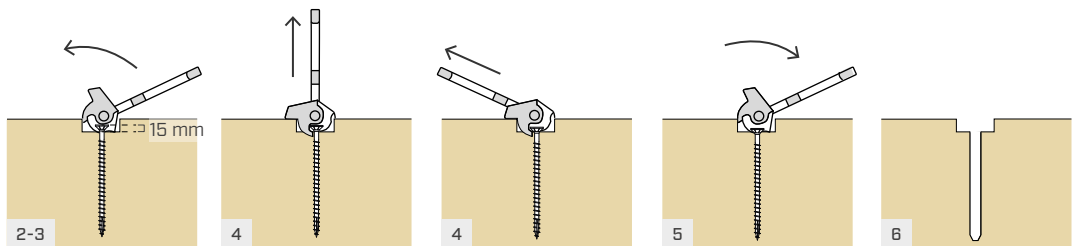
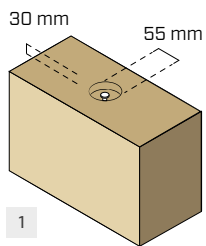
During the milling process described below, the screw is screwed perpendicular to the timber



Screwing is performed at the same angle as the lifting strap

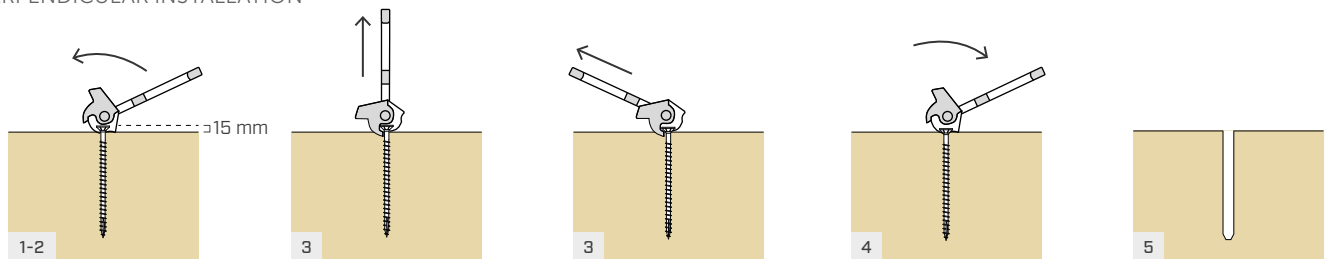
## WASP INSTALLATION

### INSTALLATION WITH MILLING



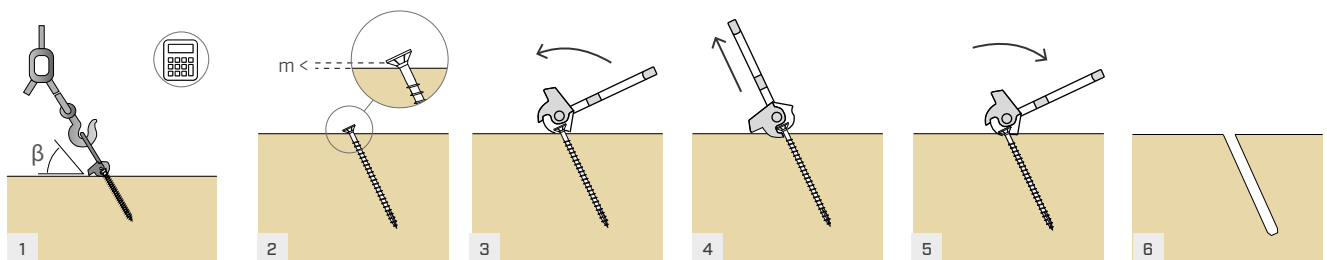
1. Milling for the WASP slot
2. Insertion of the screw into the timber element to be lifted
3. WASP positioning
4. Lifting of the structure (perpendicular or inclined force)
5. WASP removal (unhooking)
6. Removing the screw (optional)

### PERPENDICULAR INSTALLATION



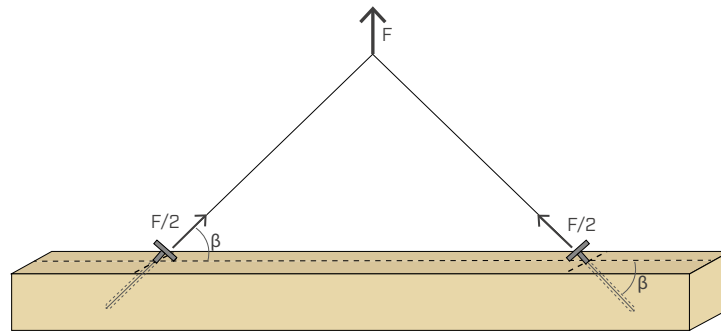
1. Insertion of the screw into the timber element to be lifted
2. WASP positioning
3. Lifting of the structure (perpendicular or inclined force)
4. WASP removal (unhooking)
5. Removing the screw (optional)

### INCLINED INSTALLATION



1. Calculation of the lifting angle  $\beta$
2. Insertion of the screw into the timber element to be lifted to the same angle  $\beta$
3. WASP positioning
4. Timber components lifting (screw in line with the lifting hook)
5. WASP removal (unhooking)
6. Removing the screw (optional)

# WASP ANCHOR WITH VGS Ø11 AND Ø13 - HORIZONTAL PANEL - STATICALLY DETERMINATE



VGS [pcs - Ø x L]	perpendicular $\beta$ [°]	perpendicular with milling		
		$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
2 Ø11 x 100	30	250	676	401(*)
	45	414	1122	793(*)
	60	635	1122	971(*)
	75	926	1122	1083(*)
	90	1122	1122	1122
2 Ø11 x 150	30	385	676	688(*)
	45	638	1171	1322(*)
	60	996	1869	1619(*)
	75	1506	1869	1806
	90	1869	1869	1869
2 Ø11 x 200	30	463	676	975(*)
	45	777	1171	1851
	60	1238	2029	2267
	75	1981	2561	2528
	90	2617	2617	2617
2 Ø11 x 250	30	465	676	1261(*)
	45	790	1171	1875
	60	1300	2029	2296
	75	2256	2561	2561
	90	2651	2651	2651
2 Ø11 x 300	30	468	676	1326
	45	797	1171	1875
	60	1333	2029	2296
	75	2441	2561	2561
	90	2651	2651	2651

VGS [pcs - Ø x L]	perpendicular $\beta$ [°]	perpendicular with milling		
		$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
2 Ø13 x 100	30	289	845	474(*)
	45	478	1326	937(*)
	60	737	1326	1148(*)
	75	1089	1326	1280(*)
	90	1326	1326	1326
2 Ø13 x 150	30	444	845	813(*)
	45	740	1464	1562(*)
	60	1157	2209	1913(*)
	75	1763	2209	2134
	90	2209	2209	2209
2 Ø13 x 200	30	597	845	1152(*)
	45	1001	1464	2187
	60	1572	2536	2679
	75	2428	3093	2988
	90	3093	3093	3093
2 Ø13 x 300	30	613	845	1829(*)
	45	1052	1464	3437
	60	1753	2536	4209
	75	3117	4861	4695
	90	4861	4861	4861
2 Ø13 x 400	30	613	845	2507(*)
	45	1052	1464	4108
	60	1761	2536	5032
	75	3289	5464	5612
	90	5810	5810	5810

(\*) The application does not respect the minimum distances according to ETA-11/0030.

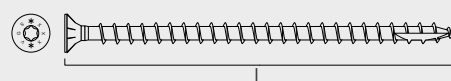
## CONNECTORS:

- VGS SCREW Ø11 AND Ø13 - full thread screw with countersunk head<sup>(1)</sup>
- HBS SCREW Ø10 - Partially thread countersunk head screw<sup>(1)</sup>
- A pulse screw gun may be used to install the screws<sup>(1)</sup>

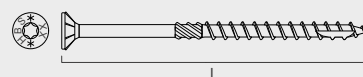
<sup>(1)</sup>The choice of fastener length is to be based each time on the dimensions of the wooden element, on the fastener's positioning, on the lift angle, on the weight of the load to be lifted and on the arrangement of the hooks.



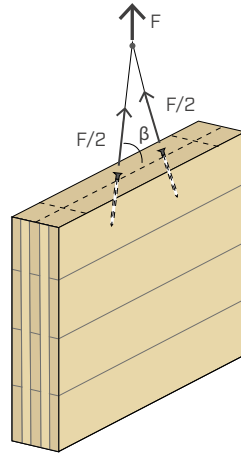
### VGS



### HBS



## WASP HANCOR WITH VGS Ø11 AND Ø13 - VERTICAL PANEL

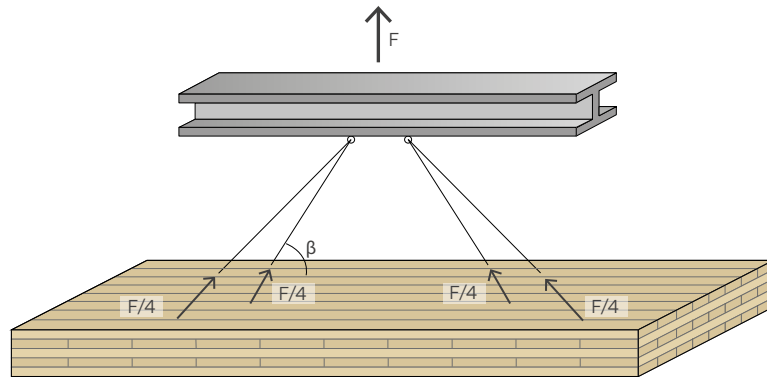


VGS [pcs - Ø x L]	perpendicular		perpendicular with milling	inclined
	$\beta$ [°]	$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
<b>2</b> Ø11 x 100	30	110	676	362(*)
	45	188	770	545(*)
	60	305	771	668(*)
	75	524	771	745(*)
	90	767	771	771
<b>2</b> Ø11 x 150	30	168	676	588(*)
	45	288	1171	863(*)
	60	470	1221	1057(*)
	75	815	1221	1179(*)
	90	1219	1221	1221
<b>2</b> Ø11 x 200	30	226	676	805(*)
	45	389	1171	1168(*)
	60	633	1652	1431
	75	1101	1652	1596
	90	1650	1652	1652
<b>2</b> Ø11 x 250	30	284	676	1015(*)
	45	488	1171	1465
	60	795	2029	1794
	75	1382	2072	2001
	90	2068	2072	2072
<b>2</b> Ø11 x 300	30	307	676	1221(*)
	45	528	1171	1755
	60	868	2029	2149
	75	1557	2482	2397
	90	2481	2482	2482

VGS [pcs - Ø x L]	perpendicular		perpendicular with milling	inclined
	$\beta$ [°]	$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
<b>2</b> Ø13 x 100	30	122	828	414(*)
	45	210	881	623(*)
	60	342	881	763(*)
	75	592	881	851(*)
	90	881	881	881
<b>2</b> Ø13 x 150	30	187	845	672(*)
	45	321	1395	987(*)
	60	524	1395	1208(*)
	75	918	1395	1348(*)
	90	1395	1395	1395
<b>2</b> Ø13 x 200	30	252	845	920(*)
	45	432	1464	1335(*)
	60	705	1889	1636(*)
	75	1240	1889	1824
	90	1889	1889	1889
<b>2</b> Ø13 x 300	30	381	845	1395(*)
	45	655	1464	2006
	60	1069	2536	2457
	75	1864	2837	2740
	90	2837	2837	2837
<b>2</b> Ø13 x 400	30	401	845	1853
	45	690	1464	2652
	60	1155	2536	3248
	75	2144	3750	3622
	90	3750	3750	3750

(\*) The application does not respect the minimum distances according to ETA-11/0030.

## WASP ANCHOR WITH VGS Ø11 AND Ø13 - HORIZONTAL PANEL - STATICALLY DETERMINATE



VGS [pcs - Ø x L]	perpendicular $\beta$ [°]	perpendicular	perpendicular with milling	inclined
		$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
4 Ø11 x 100	30	501	1353	803(*)
	45	828	2243	1586(*)
	60	1270	2243	1943(*)
	75	1852	2243	2167(*)
	90	2243	2243	2243
4 Ø11 x 150	30	769	1353	1376(*)
	45	1275	2343	2644(*)
	60	1993	3739	3238(*)
	75	3013	3739	3612
	90	3739	3739	3739
4 Ø11 x 200	30	926	1353	1949(*)
	45	1553	2343	3701
	60	2476	4058	4533
	75	3962	5122	5056
	90	5234	5234	5234
4 Ø11 x 250	30	931	1353	2523(*)
	45	1581	2343	3749
	60	2600	4058	4592
	75	4512	5122	5122
	90	5302	5302	5302

VGS [pcs - Ø x L]	perpendicular $\beta$ [°]	perpendicular	perpendicular with milling	inclined
		$R_d$ [kg]	$R_d$ [kg]	$R_d$ [kg]
4 Ø13 x 100	30	579	1691	949(*)
	45	956	2651	1875(*)
	60	1473	2651	2296(*)
	75	2178	2651	2561(*)
	90	2651	2651	2651
4 Ø13 x 150	30	888	1691	1626(*)
	45	1481	2928	3124(*)
	60	2315	4419	3827(*)
	75	3527	4419	4268
	90	4419	4419	4419
4 Ø13 x 200	30	1195	1691	2304(*)
	45	2002	2928	4374
	60	3144	5072	5357
	75	4856	6186	5975
	90	6186	6186	6186
4 Ø13 x 300	30	1226	1691	3659(*)
	45	2104	2928	6874
	60	3506	5072	8419
	75	6234	9721	9390
	90	9721	9721	9721

(\*) The application does not respect the minimum distances according to ETA-11/0030.

### GENERAL PRINCIPLES

The design values are obtained from the characteristic values as follows:

"The characteristic load bearing capacity values have been calculated according to ETA-11/0030, according with EN 1995:2014 standard. To move from the characteristic values to the project values the coefficients were applied:  $k_{mod}=1$ ;  $\gamma_M=1,3$ ;  $\gamma_G=1,35$  and  $\phi_2=1$ ".

The coefficients  $\gamma_M$ ,  $\gamma_G$ ,  $k_{mod}$  and  $\phi_2$  should be taken according to the current regulations used for the calculation: EN 1995:2014 and EN 1991-3:2006.

For the calculation process a timber density  $\rho_k = 350 \text{ kg/m}^3$  has been considered.

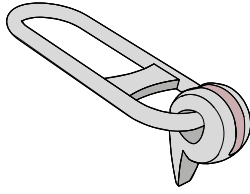
For more information on calculation principles, provisions of use, installation instructions, minimum distances and maintenance guidelines, refer to the WASP product brochure available at [www.rothoblaas.com](http://www.rothoblaas.com) or contact our Technical department.

### MAINTENANCE

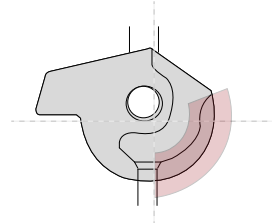
Prior to the inspection, the anchor's round head should be cleaned. Even if, under normal conditions, the lifting anchor does not show signs of wear, it should still be checked annually by a skilled operator. Damage due to wear must be verified. Plastic deformations (e.g. irreversible bending or punching) and cracks lead to the replacement of the hook; repairs and, in particular, welding on the hook are inadmissible.

For safety reasons, the screws may only be used once.

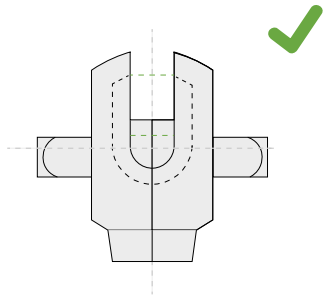
## REPLACEMENT CRITERIA



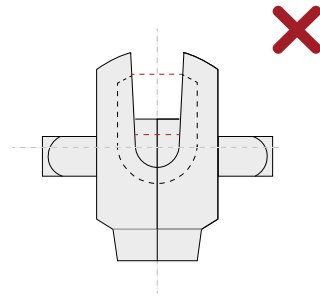
Isometric view of the WASP anchor. The part of the anchor that must be checked is highlighted in red.



Section view of the WASP anchor round head. The part of the eyelet subject to checking is highlighted in red.



Bottom view of the WASP anchor round head. The distance between the flanges corresponding to the closure of the eyelet is equal to that of the opening of the eyelet. Check passed.

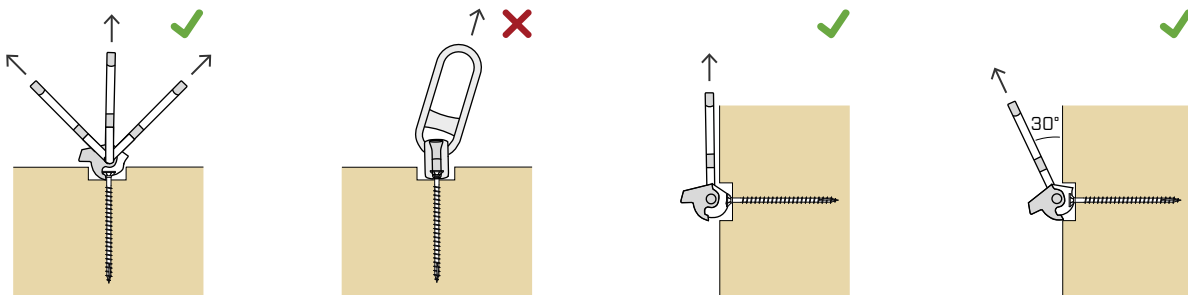


Bottom view of the anchor round head. The distance between the flanges corresponding to the closure of the eyelet is equal to that of the opening of the eyelet. Check NOT passed.

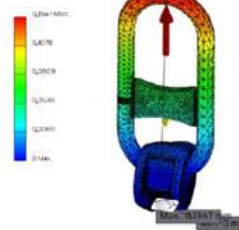
## WANT TO KNOW MORE?

For further technical information on the WASP product, see the technical data sheet at [www.rothoblaas.com](http://www.rothoblaas.com).

### DIRECTIONS OF APPLICATION ALLOWED



### ELEVATION OF BSH ELEMENTS



Test reports and capacities for elevation of BSH elements are available at [www.rothoblaas.com](http://www.rothoblaas.com).

